

**REMARKS****Summary of the Office Action**

Claims 1, 3, 4 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Higuchi et al. (EP 0,825,737 A1) (hereinafter "Higuchi").

**Summary of the Response to the Office Action**

Applicants have amended claims 1 and 4 to differently describe embodiments of the disclosure of the instant application's specification. Accordingly, claims 1, 3, 4 and 6 remain pending for consideration.

**Rejection under 35 U.S.C. § 102(b)**

Claims 1, 3, 4 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Higuchi. Applicants have amended claims 1 and 4 to differently describe embodiments of the disclosure of the instant application's specification. To the extent that these rejections might be deemed to apply to the claims as newly-amended, they are respectfully traversed for at least the following reasons.

Applicants respectfully note that a period of nearly two years has elapsed since the first Office Action issued in this application on December 18, 2003 applying the same Higuchi reference as is currently applied against all of the claims under 35 U.S.C. § 102(b). Applicants still take the position that embodiments of the disclosure of the instant application are particularly different from the disclosure of Higuchi for reasons discussed in previous filings in this application. Nevertheless, in light of the lengthy prosecution to date in this application, and Applicants' desire to expedite the prosecution in this case, Applicants have further amended each of independent claims 1 and 4 in the instant amendment. Accordingly, Applicants will now

explain several points of difference between the combinations described in newly-amended independent claims 1 and 4 and the disclosure of Higuchi. In particular, Applicants respectfully submit that there are three broad distinctions between the combinations described in newly-amended independent claims 1 and 4 and Higuchi as follows:

1. How to detect a divisional signal.
2. The detecting device's comparison of a calculated correlation with a predetermined threshold value; and
3. Processing for each of a plurality of predetermined time intervals.

In light of the importance of each of these three particular distinctions, they will be discussed in turn with particular detail, as follows.

**1. How to detect a division signal.**

Applicants respectfully submit that Higuchi carries out correlation detection for X periods of the long code using a matched filter. Higuchi detects the maximum correlation output peak in that time period. See col. 13, lines 12-15, Fig. 1 and Fig. 2 of Higuchi. Applicants respectfully submit that it is thus unnecessary to utilize a threshold value when detecting the maximum correlation output peak. Instead, it is detected by storing all the sampled values and repeatedly comparing adjacent sampled values. As a result, the maximum correlation output peak is finally determined in Higuchi in that manner. The long code phase can then be identified. Applicants respectfully submit that this is a basic idea of the disclosure of Higuchi as described in independent claim 3 of Higuchi.

Even further, Applicants respectfully submit that once the long code phase is identified in Higuchi, N dominant peaks out of the detected peaks are stored. See col. 13, line 43 - col. 14,

line 25, and Fig. 1, S1300, S1400 of Higuchi. However, Applicants respectfully submit that even in this case, a threshold value is not utilized by the disclosure of Higuchi.

As a modification of the above-discussed basic idea of the disclosure of Higuchi, a comparison with a threshold value is introduced in dependent claim 6. See col. 14, line 46 - col. 15, line 14, and claim 6 of Higuchi. Applicants respectfully submit that this portion of Higuchi is pointed out by the Examiner at line 6 on page 5 of the Non-Final Action dated December 18, 2003, in line 14 on page 4 of the Final Office Action dated August 10, 2004, and in line 12 on page 4 of the Non-Final Office Action dated May 9, 2005. Therefore, it appears that the Examiner is taking the position that the above-discussed modification of Higuchi corresponds to the features described in the last wherein clause of independent claims 1 and 4 of the instant application. Applicants respectfully submit that this interpretation of Higuchi is respectfully traversed as being technically inaccurate for at least the following reasons.

In embodiments of the disclosure of the instant application, as described in newly-amended claims 1 and 4, each of the described constant time intervals (a long code time period) is divided into a plurality of predetermined time intervals. Applicants refer, for example, to lines 2-8 at page 13 of the instant application's specification and FIG. 7 in this regard. Applicants respectfully submit that the constant time interval (one slot term) is divided by a predetermined time interval ( $\tau$ ), as shown, for example, in Fig. 7. The detecting device calculates a correlation between a signal correlated with the division signal and the received down link signal for each of the predetermined time intervals ( $\tau$ ). Further, the detecting device compares the calculated correlation with a predetermined threshold value for each of the predetermined time intervals ( $\tau$ ), as described in newly-amended independent claims 1 and 4. Even further, the detecting device

detects the division signal out of the received down link signal when the calculated correlation calculated for each of the predetermined time intervals ( $\tau$ ) exceeds the predetermined threshold value, as described in independent claims 1 and 4.

Therefore, Applicants respectfully submit that the basic idea of embodiments of the disclosure of the instant application is to compare the calculated correlation with a predetermined threshold value for each of the predetermined time intervals ( $\tau$ ). This is an important distinction between the disclosure of the instant application and the teachings of Higuchi, which does not teach, or even suggest such a feature.

Instead, according to the basic idea of the disclosure of Higuchi, as recited in claim 1, a long code phase is identified when the maximum correlation output peak is detected. Therefore, if there noise appears in the signal, a long code phase can be erroneously detected even though the maximum correlation output peak is extremely lower than a threshold value.

On the other hand, in embodiments of the disclosure of the instant application, as described in newly-amended independent claims 1 and 4, because the calculated correlation is compared with a predetermined threshold value for each of the predetermined time intervals ( $\tau$ ), a division signal would not be erroneously detected in the above situation.

Applicants now turn to another important distinction between newly-amended claims 1 and 4 and the disclosure of Higuchi.

## **2. The subject of comparison with a predetermined threshold value.**

As previously explained, Higuchi discloses a comparison with a threshold value, as introduced in Higuchi's dependent claim 6 as a modification of the above-discussed basic idea of the disclosure of Higuchi. The Office Actions to date in this application cite to these portions of

Higuchi as allegedly teaching the features of the final wherein clause of independent claims 1 and 4. However, these assertions are respectfully traversed because the subject of comparison with a threshold value, as discussed in Higuchi is particularly different from the features associated with the disclosure of the instant application, as described in independent claims 1 and 4 for at least the following reasons.

Applicants respectfully submit that in Higuchi, the subject of comparison with a predetermined threshold value is associated with the maximum correlation output peak. Thus, the threshold value is compared with only one output peak. See col. 14, line 46 - col. 15, line 14, and claim 6 of Higuchi.

As a result, Applicants respectfully submit that the arrangements of Higuchi have to store all of the correlation values in one long code period in order to identify the maximum correlation output peak. This requires an extremely large capacity of a memory.

On the other hand, in embodiments of the disclosure of the instant application, the subject of comparison with a predetermined threshold value is related to the calculated correlation that is calculated for each of the predetermined time intervals ( $\tau$ ), as described in newly-amended independent claims 1 and 4. As a result, in embodiments of the disclosure of the instant application, as described in independent claims 1 and 4, the division signal is detected when the calculated correlation exceeds the predetermined threshold value, and only calculated correlation exceeding the predetermined threshold value is added and stored as accumulated additional value in one constant time interval (one slot term). As a result, Applicants respectfully submit that this feature significantly reduces the required memory storage capacity.

Applicants now turn to another important distinction between newly-amended claims 1 and 4 and the disclosure of Higuchi.

**3. Processing for "each of a plurality of predetermined time intervals"**

At page 4 of the Office Action dated May 9, 2005, the Examiner cites to col. 34, lines 54-60, col. 35, lines 1-24, and col. 31, lines 8-33 of Higuchi as allegedly disclosing the claimed feature of processing for "each of a plurality of predetermined intervals." Applicants respectfully traverse this interpretation of Higuchi as being technically inaccurate for at least the following reasons.

Applicants respectfully submit that at col. 34, lines 54-60 and col. 35, lines 1-24 of Higuchi, features associated with Higuchi's claim 21 are described. In addition, Applicants respectfully submit that the algorithm of claim 21 is described at col. 20, lines 44-58, col. 21, lines 1-49 and FIG. 26 of Higuchi. As clearly described in this section, Applicants respectfully submit that claim 21 describes a methodology that merely conducts the above-explained basic idea and modification of the basic idea of the disclosure of Higuchi for each L/n period. In other words, Applicants respectfully submit that the long code period (L) is shortened to a period (n).

Applicants respectfully submit that the Examiner should notice that correlation is calculated in each period shorter than the period (n). As a result, Higuchi does not compare each correlation with a predetermined threshold value for each of the predetermined time intervals ( $\tau$ ).

On the other hand, in embodiments of the disclosure of the instant application, as described in newly-amended independent claims 1 and 4, the subject of comparison with a predetermined threshold value involves the calculated correlation that is calculated for each of

the predetermined time intervals ( $\tau$ ). As a result, each of calculated correlations is compared with a predetermined threshold value for each of the predetermined time intervals ( $\tau$ ).

Applicants respectfully submit that such an arrangement is also neither shown nor suggested by the disclosure of Higuchi.

Accordingly, Applicants respectfully assert that the rejections under 35 U.S.C. § 102(b) should be withdrawn because Higuchi does not teach or suggest each feature of independent claims 1 and 4, as amended. As pointed out in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim." Thus, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)." Furthermore, Applicants respectfully assert that dependent claims 3 and 6 are allowable at least because of their dependence from independent claim 1 or 4, as amended, and the reasons set forth above.

### **CONCLUSION**

In view of the foregoing, Applicants submit that the pending claims are in condition for allowance, and respectfully request timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution. A favorable action is awaited.

**EXCEPT** for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including

any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573.


This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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